BACHELOR OF COMPUTER APPLICATION
THIRD SEMESTER
OBJECT ORIENTED PROGRAMMING
BCA-302 (IDMj)
[USE OMR SHEET FOR OBJECTIVE PART]

SET A

Duration: 3 hrs.

Full Marks: 70

(**Objective**)

Time: 30 mins.

Marks: 20

Choose the correct answer from the following:

1×20=20

1. Which operator cannot be overloaded?
   a. +
   b. -
   c. *
   d. ::

2. Which of the following cannot be passed to the function in C++?
   a. One
   b. Structure
   c. Array
   d. Header file

3. C++ actually supports following two complete dynamic allocation systems?
   a. One is defined by C++ and other not defined by
   b. One defined by C and one specific to C++
   c. Both are specific to C++
   d. Both of them are improvement of C

4. Class C is derived from class B, which is derived from class A, all through public inheritance, then a class C member function can access:
   a. Protected and public data only in C and B
   b. Protected and public data only in C
   c. Private data in A and B
   d. Protected data in A and B

5. If 'y' is of integer type then the expressions
   $3 * (y - 8)/9$ and $(y - 8)/9 * 3$
   a. Must yield the same value
   b. Must yield different values
   c. May or may not yield the same value
   d. None of the above

6. Enumeration is a process:
   a. Declaring a set numbers
   b. Sorting a list of strings
   c. Assigning a list of legal values possible for a variable
   d. Sequencing a list of operators

7. Which of the statements are true?
   I. Function overloading is done at compile time.
   II. Protected members are accessible to the member of derived class
   III. A derived class inherits constructor and destructors.
   IV. A friend function can be called like normal function.
   a. I, II, III
   b. II, III, IV
   c. I, III, IV
   d. I, II, IV

8. Important advantages of using New and Delete operator in C++ is:
   a. Allocation of memory
   b. Frees the memory previously allocated
   c. Initialization of memory easily
   d. Allocation of memory and frees the memory previously allocated

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9. The Output of the following will be

```
for (x=1, y=5; x+y<=10; x++)
{
    cout<< x<<y;
    y++;
}
```

a. 1 5
    2 6
    3 7

b. 1 5
    2 6
    3 7
    4 8

c. 1 5
    1 6
    1 7
    1 8
    1 9

d. 2 5
    3 5
    4 5
    5 5

10. Wrapping data and its related functionality into a single entity is known as..............
    a. Abstraction
    b. Encapsulation
    c. Polymorphism
    d. Modularity

11. What is the output of below program?

```
int main()
{
int a = 10;
cout<<a++;
return 0;
}
```

a. 10
b. 11
c. 12
d. Not defined

12. The friend function are used in situation where:
    a. We want to have access to unrelated class
    b. Dynamic binding is required
    c. Exchange of data between classes to take place
    d. None of these

13. A.................... is special method used to initialize the instance variable of a class.
    a. Member function
    b. Destructor
    c. Constructor
    d. Virtual function

14. Which of the following is correct about static variables?
    a. Changes to parameter values within the function also affect the original arguments
    b. There is need to copy parameter values (i.e. less memory used)
    c. There is no need to call constructors for parameters (i.e. faster)
    d. All of the mentioned

15. Predict the output
```
Class Test{
              int x;
              Test() { x=5;}      };
  int main() {      Test *t=new Test;
                    cout<<t->x;      }
```
   a. Compilation error   b. 5
   c. Garbage value   d. 0

16. What is the role of a constructor in classes?
   a. To modify the data whenever required   b. To destroy an object
   c. To initialize the data members of an   d. To call private functions from the outer
      object when it is created   world

17. If a data item is declared as a protected access specifier then it can be accessed:
   a. Anywhere in the program   b. By the base and derived classes
   c. Only by the base class   d. Only by the derived class

18. If the variable count exceeds 100, a single statement that prints "Too many" is:
   a. if (count<100) cout << "Too many";   b. if (count>=100) cout << "Too many";
   c. if (count>100) cout << "Too many";   d. None of these

19. ```
    #include<iostream.h>
    int main()
    {
    cout<<-1-2-1;
    return 0;
    }
    ```
   a. Compilation error   b. Runtime error
   c. 4   d. -4

20. The programming languages C and C++ are not strongly typed languages because:
   a. C and C++ allows functions for which   b. C and C++ allows functions for which
      parameters are not type checked   parameters are type checked
   c. C and C++ allows functions for which   d. Union types in these languages are not
      parameters are not type checked and   type checked
      also the union types in these
      languages are not type checked

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(Descriptive)

[Answer question no.1 & any four (4) from the rest]

1. Explain five main features of Object Oriented Programming which make better than other programming languages.   10

2. a) What is function? Define its categories used in C++ with example.   2+6+2=10
   b) Describe the use of 'friend' keyword in C++ programming.

3. Define constructor and destructor with their characteristics. Write a program to show the use of copy data from one object to another object.   5+5=10

4. Write a program to add two times using operator overloading function where time is represent in HH:MM:SS format.   10

5. a) What is the use of operator overloading? Define its categories. What are the advantages of it?   6+4=10
   b) What is static data member and member function in C++?

6. Define Inheritance with its categories. Write about use of mode of inheritance and its effects on data member of the classes.   6+4=10

7. Write a program to display the record of student result based on exam and sports point.   10

8. Write short notes on: 2.5×4=10
   a) New & delete operator
   b) Passing object as argument and return object
   c) Class and object
   d) Static member

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